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## PALEOGEOGRAPHIC MAPS OF NORTH AMERICA<sup>1</sup>

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### 12. UPPER CRETACEOUS NORTH AMERICA<sup>2</sup>

North America was submerged over extensive areas during the Upper Cretaceous. From Cape Cod to Texas the Atlantic and Gulf coasts of the preceding period were transgressed by the sea. From the Gulf to the Arctic marine waters spread over what is now the site of the Great Plains and in the United States that of the Rocky Mountains. The Pacific extended its limits in California and Oregon; farther north, however, from British Columbia to Alaska the land gained.

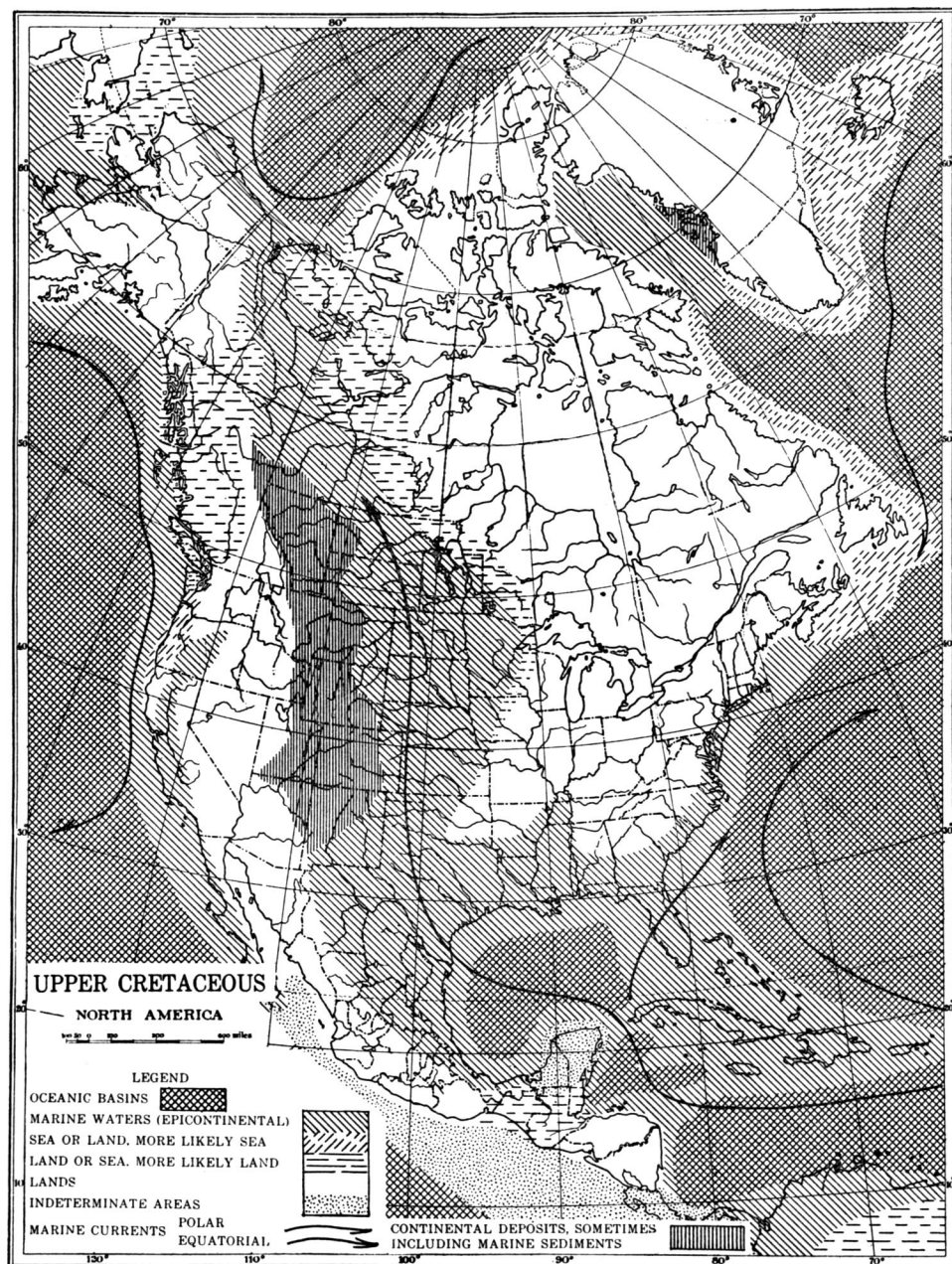
In the central West, from New Mexico to Alberta the invasion of the sea was followed by emergence of the area ruled on the map for continental deposits. The surface of the area was built up by sediments which were derived from uplands west of it, and which accumulated about as fast as the bottom sank. The area thus formed a coastal plain, extensive marshes prevailed, and the marsh deposits eventually became coal beds. Sea, marshes, and river plains alternated in sequence till near the close of the Cretaceous period, when in this Rocky Mountain area certain spots became mountains, the forerunners of the Colorado Front Range, the Black Hills, and Big-horn Mountains of today.

East of the Rocky Mountain coastal plain the marine strait prevailed to the end of the period. It divided the continent, reduced the northern land area, and admitted warm waters to the Arctic. These conditions favored the mild climate which the northern regions then enjoyed.

The eastern portion of the continent contrasted with the western. Whereas in the west rising lands were eroded, carved into hilly or

<sup>1</sup> Published by permission of the Director of the U. S. Geological Survey.

<sup>2</sup> Map prepared in collaboration with Dr. T. W. Stanton.



mountainous landscapes, and yet became more elevated, in the east the surface was a vast plain and remained a lowland.

The close of the Cretaceous was marked by a general ebb of the seas that had prevailed over continents, possibly because the ocean basins deepened. In central western North America the land was rising also, and the combined effect was to withdraw the waters of the strait to the Gulf on the south and to the Arctic on the north.